

CLAIMS:

1. A polishing composition comprising:
 - a reaction product produced by a reaction between a polyalkylene oxide and a compound having a functional group having reactivity with a hydroxyl group;
 - aluminum oxide;
 - a polishing accelerator including at least one salt selected from the group consisting of a metal salt of an inorganic acid or organic acid and an ammonium salt of an inorganic acid or organic acid; and
 - water.
2. The polishing composition according to claim 1, wherein the polyalkylene oxide is a copolymer of ethylene oxide and propylene oxide.
3. The polishing composition according to claim 1, wherein the compound is glycerin.
4. The polishing composition according to claim 1, wherein the reaction product is a polyoxyalkylene glycol of a triol-type.
5. The polishing composition according to claim 1, wherein the number average molecular weight of the reaction product is from 500 to 10,000 inclusive, and the kinematic viscosity at 25°C of the reaction product is from 50 to 5,000 mm²/s inclusive.
6. The polishing composition according to claim 1, wherein the content of the reaction product in the polishing composition is from 1 to 30% by weight inclusive.
7. The polishing composition according to claim 1, wherein

the aluminum oxide is α -alumina.

8. The polishing composition according to claim 1, wherein
the content of the aluminum oxide in the polishing composition
5 is from 3 to 30% by weight inclusive.

9. The polishing composition according to claim 1, wherein
the polishing accelerator includes aluminum salt of nitric
acid, oxalic acid, or lactic acid.

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10. The polishing composition according to claim 1, wherein
the content of the polishing accelerator in the polishing
composition is from 0.5 to 20% by weight inclusive.

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11. The polishing composition according to claim 1, further
comprising glycol represented by general formulae $H-(OCH_2CH_2)_n-OH$ or $H-(OCH(CH_3)CH_2)_m-OH$, wherein n is an integer of 1 to 230
inclusive and m is an integer of 1 to 180 inclusive.

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12. The polishing composition according to claim 11, wherein
the glycol is ethylene glycol or propylene glycol, or both.

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13. The polishing composition according to claim 1, further
comprising at least one metal oxide selected from colloidal
silica, colloidal alumina, colloidal zirconia, colloidal
titania, fumed silica, fumed alumina, fumed zirconia, and
fumed titania.

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14. The polishing composition according to claim 13, wherein
the metal oxide is colloidal silica or colloidal alumina, or
both.

15. The polishing composition according to claim 1, further
comprising an antifoaming agent.

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16. The polishing composition according to claim 1, further comprising cellulose.
17. The polishing composition according to claim 16, wherein
5 the cellulose is hydroxyethylcellulose or microcrystalline cellulose, or both.
18. The polishing composition according to claim 1, wherein
the pH of the polishing composition is from 2 to 7 inclusive.
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19. The polishing composition according to claim 1, wherein
the polishing composition is used for polishing synthetic
resin products or metal products.
- 15 20. A method for polishing an object, the method comprising:
preparing a polishing composition, wherein the polishing
composition includes:
20 a reaction product produced by a reaction between
a polyalkylene oxide and a compound having a functional
group having reactivity with a hydroxyl group;
 aluminum oxide;
 a polishing accelerator including at least one
salt selected from the group consisting of a metal salt
of an inorganic acid or organic acid and an ammonium
25 salt of an inorganic acid or organic acid; and
 water; and
polishing the surface of the object by using the
polishing composition.